

Abstract

An improved mineralizer used for a process for obtaining bulk mono-crystalline gallium-containing nitride of a general formula of $\text{Al}_x\text{Ga}_{1-x}\text{N}$, where $0 \leq x < 1$ in an environment of supercritical ammonia-containing solution has been now proposed. According to the invention growth rate and quality of the product obtained can be controlled by suitable selection of mineralizer, so as to ensure presence of ions of Group I element (IUPAC 1989), preferably sodium in combination with other components selected from the group consisting of Group I elements (IUPAC 1989), ions of Group II elements (IUPAC 1989), one or more substances containing oxygen-free species causing some weakening of the ammonio-basic nature of the supercritical solvent, optionally in combination with Group II elements (IUPAC 1989), preferably calcium or magnesium.

The improved bulk mono-crystals obtained thereby are intended mainly for use in the field of opto-electronics.